

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application: Good et al.) Group Art Unit: 1733
)
Serial No. 10/613,409) Examiner: Christopher Schatz
)
Filed: July 3, 2003) Atty. Docket No. 3023.PKG
)

For: HOT MELT ADHESIVE

BRIEF ON APPEAL

Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

Applicants hereby appeal the decision of the Primary Examiner finally rejecting claims 1-8, 10, 12, 13, 22 and 25-29.

A copy of the claims involved in this appeal is set forth in the *Claims appendix*.

(i) *Real party in interest*

The real party in interest is Henkel Corporation, successor in interest to National Starch and Chemical Investment Holding Corporation.

(ii) *Related appeals and interferences*

There are no appeals or interferences known to applicants which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(iii) *Status of Claims*

Claims 1-8, 10, 12, 13, 22 and 25-29 are pending.

Claims 1-3, 8, 10, 12, 13, 22, 25 and 27 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Mehaffy et al. (EP 0934990A1).

Claims 4, 5, 26, 28 and 29 are rejected under 35 U.S.C. § 102 (b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 (a) as being obvious over Mehaffy et al. (EP 0934990A1).

Claims 6 and 7 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Mehaffy et al. in view of Baetzold et al. (U.S. 5,827,913).

The rejections of claims 1-8, 10, 12, 13, 22 and 25-29 are being appealed.

(iv) *Status of Amendments*

No amendment following final rejection was made. All amendments have been entered.

(v) *Summary of claimed subject matter*

Independent claim 1 is directed to a low application temperature hot melt adhesive that is applied at temperature of below 250°F, has a viscosity between about 800 cps and 1500 cps at the adhesive application temperature, and wherein the bonded adhesive heat stress value and the adhesive application temperature are separated by 100°F or less. ¶ [0021], lines 17-19; ¶ [0032], lines 5-7.

Independent claim 26 is directed to a low application temperature hot melt adhesive that

is applied at a temperature of below 250°F, has a viscosity between about 800 cps and 1500 cps at the adhesive application temperature, the bonded adhesive heat stress value and the adhesive application temperature are separated by 100°F or less, the crystallization of the adhesive when analyzed by differential scanning calorimeter from application temperature to room temperature at a cooling rate of 150°C/min yields a time between initial cooling and crystallization of 0.35 minutes or greater, and is thermally stable at the application temperature for a period of one hundred hours as indicated by a viscosity change within plus/minus ten percent of the original application viscosity. ¶ [0021], lines 17-19; ¶ [0032], lines 5-7; ¶ [0033], lines 3-7.

(vi) *Grounds of rejection to be reviewed on appeal*

- A. WHETHER THE SUBJECT MATTER OF CLAIMS 1-8, 10, 12, 13, 22 AND 25-29 ARE ANTICIPATED BY MEHAFFY ET AL. (EP 0934990A1).
- B. WHETHER THE SUBJECT MATTER OF CLAIMS 4, 5, 26, 28 AND 29 ARE OBVIOUS OVER MEHAFFY ET AL. (EP 0934990A1).
- C. WHETHER THE SUBJECT MATTER OF CLAIMS 6 AND 7 ARE OBVIOUS OVER MEHAFFY ET AL. (EP 0934990A1) IN VIEW OF BAETZOLD ET AL. (U.S. 5,827,913).

(vii) *Argument*

- A. Claims 1-8, 10, 12, 13, 22 and 25-27 are not anticipated by Mehaffy et al. (EP 0934990A1).
Claims 1-3, 8, 10, 12, 13, 22, 25 and 27 are rejected under 35 U.S.C. § 102 (b) as being anticipated by Mehaffy and claims 4, 5, 26, 28 and 29 are rejected under 35 U.S.C. § 102 (b) as

being anticipated by or, in the alternative, under 35 U.S.C. § 103 (a) as being obvious over Mehaffy.

Mehaffy does not anticipate the subject matter of claims 1-8, 10, 12, 13, 22 and 25-29.

Mehaffy does not disclose or exemplify an adhesive applied at a temperature of below 250°F which has a bonded heat stress value that is separated from the application temperature by not more than 100°F, let alone an adhesive that is applied at a temperature of about 200°F, or an adhesive that is applied at or below 200.

Applicants have discovered hot melt adhesives that can be formulated for application at a temperature below 250°F and which are able to withstand stress at temperatures substantially closer to the temperature of the adhesive's application temperature than heretofore achieved in the art, i.e., the bonded adhesive heat stress value and the adhesive application temperature are separated by 100°F or less.

Mehaffy's Table I report heat stress values of adhesives applied at 250°F. The adhesives reported in Table I have heat stress values that vary from 115-125°F when the adhesive is applied at 250°F. While the examiner has acknowledged that the difference in the application temperature and the heat stress reported in Table I is more than that claimed by applicants, the examiner urges that such adhesives are disclosed by Mehaffy as being able to be applied at temperatures down to 200°F.

Applicants disagree with the examiner's assertion that if the adhesives reported in Table I were applied at 200°F that the difference in the application temperature and the heat stress would be less than 100°F. It is well known in the art that the heat stress values are dependent upon the

application temperature. Although Mehaffy's exemplified adhesive has a heat stress value of 115°F when applied at 250°F, a skilled artisan would recognize that the heat stress value would differ when the same adhesive is applied at temperature below 250°F, or applied at a temperature of about 200°F, or applied at a temperature at or below 200°F. A skilled artisan understands that as the application temperature of an adhesive decreases, the heat stress value also decreases. Hence, the difference between the heat stress value and the adhesive application temperature would be greater than that reported by Mehaffy's adhesives are applied at temperature lower than 250°F.

In contrast to Mehaffy's adhesives, applicants' have shown that adhesives can be formulated that can maintain a temperature separation of 100°F or less between the application temperature and the adhesive heat stress value. The Examiner's position that Mehaffy discloses the *same adhesive composition* as the instant application and thus will have the same heat stress value is without merit.

Mehaffy does not disclose or suggest a hot melt adhesive that can be applied at a temperature of less than 250°F, has a viscosity between about 800 cps and 1500 cps at the adhesive application temperature, whose bonded adhesive heat stress value and adhesive application temperature separated by 100°F, is thermally stable at the application temperature for a period of one hundred hours - as indicated by a viscosity change within plus/minus ten percent of the original application viscosity, as required by applicants' claims 5, 26 and 27, or a hot melt adhesive that, when analyzed by differential scanning calorimeter from application temperature to room temperature at a cooling rate of 150°C/min, yields a time between initial cooling and

crystallization of 0.35 minutes or greater, as required in applicants' claim 4.

Reversal of the Section 102 rejection of claims 1-8, 10, 12, 13, 22 and 25-29 as being anticipated by Mehaffy is requested.

B. Claims 4, 5, 26, 28 and 29 are patentable over Mehaffy et al. (EP 0934990A1).

Claims 4, 5, 26, 28 and 29 are rejected under 35 U.S.C. § 102 (b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 (a) as being obvious over Mehaffy.

Mehaffy does not render obvious the subject matter of claims 4, 5, 26, 28 and 29.

Applicants have discovered hot melt adhesives that can be formulated for application at a temperature below 250°F and which are able to withstand stress at temperatures substantially closer to the temperature of the adhesive's application temperature than heretofore achieved in the art, i.e., the bonded adhesive heat stress value and the adhesive application temperature are separated by 100°F or less.

Mehaffy fail to disclose or even suggest a hot melt adhesive having a viscosity between about 800 cps and 1500 cps at the adhesive application temperature, which application temperature is below 250°F, wherein the bonded adhesive heat stress value and the adhesive application temperature are separated by 100°F or less. Mehaffy fails to disclose or suggest a formulated low application temperature hot melt adhesive that has a crystallization time (between initial cooling and crystallization) of 0.35 minutes or greater. Mehaffy also fails to disclose or suggest a formulated low application hot melt adhesive that is thermally stable at the application temperature for a period of one hundred hours.

While Mehaffy's paragraphs 0008 and 0033 recite hot melt adhesives that may be "applied at temperatures between 200° to 300°F," the skilled artisan, from the reported heat stress value of the 250°F applied adhesive of 115°F - 125°F, would recognize if the adhesive was applied at temperature below 250°F, or applied at a temperature of about 200°F, or applied at a temperature at or below 200°F, the heat stress value would also decrease. Hence, the difference between the heat stress value and the adhesive application temperature would be greater than that reported in the Mehaffy disclosure.

Reversal of the Section 103 rejection of claims 4, 5, 26, 28 and 29 as being obvious over Mehaffy is requested.

C. Claims 6 and 7 are patentable over Mehaffy et al. (EP 0934990A1) in view of Baetzold et al. (U.S. 5,827,913).

Claims 6 and 7 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Mehaffy in view of Baetzold.

The combined disclosures of Mehaffy and Baetzold do not render obvious the subject matter of claims 6 and 7.

Baetzold is directed to encapsulating an ingredient in a hot melt adhesive composition. Baetzold teaches that the encapsulated ingredient may be any known hot melt adhesive formulation ingredient or additive such as antioxidants and fragrances (abstract). The disclosure of Baetzold adds nothing to the disclosure of Mehaffy which would motivate the skilled artisan to formulate an adhesive that can be applied at a temperature below 250°F and which are able to

withstand stress at temperatures substantially closer to the temperature of the adhesive's application temperature than heretofore achieved in the art, i.e., the bonded adhesive heat stress value and the adhesive application temperature are separated by 100°F or less.

Reversal of the Section 103 rejection of claims 6 and 7 as being obvious over Mehaffy in view of Baetzold is requested.

Respectfully submitted,

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(viii) *Claims appendix*

1. A low application temperature hot melt adhesive that is applied at temperature of below 250°F, has a viscosity between about 800 cps and 1500 cps at the adhesive application temperature, and wherein the bonded adhesive heat stress value and the adhesive application temperature are separated by 100°F or less.
2. The adhesive of claim 1 that is applied at a temperature of about 200°F.
3. The adhesive of claim 1 that is applied at or below a temperature of 200°F.
4. The adhesive of claim 1 wherein crystallization of the adhesive when analyzed by differential scanning calorimeter from application temperature to room temperature at a cooling rate of 150°C/min yields a time between initial cooling and crystallization of 0.35 minutes or greater.
5. The adhesive of claim 1 that is thermally stable at application temperature for a period of one hundred hours as indicated by a viscosity change within plus/minus ten percent of the original application viscosity.
6. The adhesive of claim 1 further comprising an energy absorbing ingredient.

7. The adhesive of claim 1 further comprising a fragrance.
8. An article of manufacture comprising the adhesive of claim 1.
10. The article of claim 8 which is a carton, case, tray, bag or book.
12. A packaged article contained within a carton, case, tray or bag, wherein the carton, case, tray or bag comprises the adhesive of claim 1.
13. The packaged article of claim 12 which is a packaged food article.
22. The adhesive of claim 3 wherein the bonded adhesive heat stress value and the adhesive application temperature are separated by 90°F or less.
25. The adhesive of claim 1 comprising an ethylene n-butyl acrylate copolymer.
26. A low application temperature hot melt adhesive that is applied at a temperature of below 250°F, has a viscosity between about 800 cps and 1500 cps at the adhesive application temperature, the bonded adhesive heat stress value and the adhesive application temperature are separated by 100°F or less, the crystallization of the adhesive when analyzed by differential

scanning calorimeter from application temperature to room temperature at a cooling rate of 150°C/min yields a time between initial cooling and crystallization of 0.35 minutes or greater, and is thermally stable at the application temperature for a period of one hundred hours as indicated by a viscosity change within plus/minus ten percent of the original application viscosity.

27. The adhesive of claim 1 which comprises 20 wt % of an ethylene n-butyl acrylate copolymer and 10 wt % of an ethylene vinyl acetate copolymer.

28. The adhesive of claim 26 that is applied at a temperature of about 200°F.

29. The adhesive of claim 26 that is applied at or below a temperature of 200°F.

(ix) *Evidence appendix*

NONE

(x) *Related proceedings appendix*

None